MARSHALL, Mich. — As the Obama administration inches closer to a decision on whether to approve construction of the much-debated Keystone XL pipeline, costly cleanup efforts in two communities stricken by oil spills portend the potential hazards of transporting heavy Canadian crude.

It has been three years since an Enbridge Energy pipeline ruptured beneath this small western Michigan town, spewing more than 840,000 gallons of thick oil sands crude into the

The Environmental Protection Agency estimated in May that 180,000 gallons of oil sands crude remained in the Kalamazoo River in Michigan, three years after a pipeline ruptured.
Kalamazoo River and Talmadge Creek, the largest oil pipeline failure in the country’s history. Last March, an Exxon Mobil pipeline burst in Mayflower, Ark., releasing thousands of gallons of oil and forcing the evacuation of 22 homes.

Both pipeline companies have spent tens of millions of dollars trying to recover the heavy crude, similar to the product Keystone XL would carry. River and floodplain ecosystems have had to be restored, and neighborhoods are still being refurbished. Legal battles are being waged, and residents’ lives have been forever changed.

“Aall oil spills are pretty ugly and not easy to clean up,” said Stephen K. Hamilton, a professor of aquatic ecology at Michigan State University who is advising the Environmental Protection Agency and the state on the cleanup in Marshall. “But this kind of an oil is even harder to clean up because of its tendency to stick to surfaces and its tendency to become submerged.”

Before July 26, 2010, hardly anyone in Marshall had heard of Enbridge Energy Partners, a Houston firm whose parent company is based in Calgary, Alberta.
On a recent midsummer morning, the Kalamazoo looked almost the way it once did. Towering oak trees draped over the water in the heat. Hawks patrolled the deep green riverbanks. An elderly couple lugged fishing tackle toward a shady area. If not for two motorboats whirring downstream and three men probing the water with poles, there would have been no sign that anything had gone wrong.

Much of Kalamazoo’s plant and animal life has returned. But ridding the water of all the oil — some of which sank to the river floor and continues to generate a kaleidoscopic sheen — has proved elusive. Though a 40-mile stretch of the river has reopened after being closed for two years and most of the oil has been recovered or has evaporated, vestiges of the spill are everywhere. “For Sale” signs dot the rolling cornfields and soy farms. Once-coveted riverfront homes sit vacant.

April Lane said people in Mayflower still worried about safety.
Matt Davis, a real estate agent here, said he had struggled to sell homes since the spill. “Enbridge hopes people forget,” Mr. Davis said. “But this is my town. This is where I grew up. Enbridge isn’t from around here.

“We didn’t ask for them to have their pipeline burst in our backyard. Make it right. Take care of the mess you made.”

In May, the E.P.A. found that Enbridge had drastically underestimated the amount of oil still in the river. The agency estimated that 180,000 gallons had most likely drifted to the bottom, more than 100 times Enbridge’s projection. It has ordered Enbridge to dredge sections of the river where stubborn beads of oil remain submerged.

The dredging started on July 30, and stretches of the river are being closed again. Construction crews have rumbled onto the riverfront in nearby Comstock Township, angering residents and business owners who remain fearful of another accident.

Jason Manshum, an Enbridge spokesman, said the company was working to address the township’s concerns as it followed the orders of the E.P.A. “This is the single-largest incident in the history of our organization,” he said. “From the beginning, in July 2010, we said that we would be committed to this community and the natural environment, for as long as it would take to right the rupture that happened. About three years later to the day, we’re still here.”

Larry Bell, who owns Bell’s Brewery, one of the country’s largest craft beer makers, was shocked earlier this summer to see workers clear a staging area next to his brewery near Marshall. “We’re going to be downwind of this thing,” said Mr. Bell, who filed a lawsuit last month asserting that Enbridge did not get permission from the local condominium association to build its dredge pad.

“If those airborne contaminants come in, it’s going to get into our ingredients,” Mr. Bell said. “We see that as irreparable. They can’t compensate me for taking away my business.”

Since the spill, Enbridge has become one of the largest landowners in the area — buying out 154 residential properties within a 200-foot swath that the company determined was most affected. By many accounts, Enbridge paid a fair price and has begun to put some properties up for sale.

The company has also donated millions of dollars to build roads and parks along the river. Still, the emotional scars of losing property run deep.
Larry Bell fears "irreparable" harm to his brewery in Michigan and has filed a lawsuit

For nearly 30 years, Deb Miller and her husband owned a carpet store along the Kalamazoo. After the spill, Enbridge offered to buy the property but not the store, Ms. Miller said. Nearing retirement and worried that the land’s value would plummet, the Millers liquidated their business and sold the land.

“We could have worked that store for another 10 years,” said Ms. Miller, 59, who now has two part-time jobs. “For us to physically move our business at our age was more than we could fathom. It was an agonizing decision.”

The same sentiment echoes in Mayflower, Ark., a quiet, working-class town of about 2,200 tucked among the wetlands and dogwood thickets near Little Rock.
On March 29, an Exxon Mobil pipeline burst near the Northwoods subdivision, spilling an estimated 210,000 gallons of heavy Canadian crude, coating a residential street with oil. Twenty-two homes were evacuated.

Now, four months later, the neighborhood of low-slung brick homes is largely deserted, a ghostly column of empty driveways and darkened windows, the silence broken only by the groan of heavy machinery pawing at the ground as remediation continues.

After E.P.A. monitoring found air quality to be safe, residents of 17 of the homes were allowed back. But only a few have returned.

“People here are still unsure about whether it’s safe for their families,” said April Lane of the Faulkner County Citizens Advisory Group, a community organization working with residents.

Exxon has offered to buy the 22 evacuated homes, or to compensate owners for diminished property value. The company also said it would buy 40 additional properties if the owners could not sell them within four months.

So far, Exxon has spent $2 million on temporary housing for residents and more than $44 million on the cleanup, said Aaron Stryk, an Exxon spokesman.

“We can’t say it enough: We are so, so sorry this incident took place and for the disruption and for the inconvenience that has taken place,” Mr. Stryk said. “We are staying in Mayflower until the job is done.”

For some, the money cannot replace the lives they once led.

Jimmy Arguello and his wife, Tiffany, lived in Northwoods for six years, in the first home they owned, built by Mr. Arguello, a plumber, and his friends.

The day the pipeline broke, the Arguellos were told by the police to pack for a few days. But for three months, the couple and their two young sons stayed at hotels — six in all — before settling into an apartment in nearby Conway.

Exxon has paid their living expenses, but the impact on the family has been “heartbreaking,” Mr. Arguello said. Worried about raising his children near an oil spill, he has decided to sell his home to Exxon. “It’s hard not to know where your family is going to go and where we’re going to end up,” he said. “I built that house six years ago. And now I’m not going back.”

Ryan Senia, a 29-year-old engineer, is also selling to Exxon. Mr. Senia, who has stayed at a friend’s house since being evacuated, said he worried he would never be able to put his home on the market otherwise. “Everyone you know is gone,” he said.
During the last few months, several lawsuits have been filed on behalf of dozens of residents who live both in and near the subdivision.

The State of Arkansas and the Justice Department have also filed a claim, saying that the spill polluted waterways and that Exxon did not immediately repair the pipeline.

Exxon would not comment on pending litigation, Mr. Stryk said, adding that it had been transparent in its clean up efforts.

There is no sense of how long those efforts will continue. A protective boom has been strung across Lake Conway; so far, no oil has reached it. Workers were still searching for residual oil in a nearby marsh.

And crews in Northwoods continue to monitor for oil that seeped into the foundations of several homes. “We’re tired of it,” Mr. Arguello said. “We’re ready for it to be over.”

Here in Marshall, Enbridge projects that its total cleanup cost will run to nearly $1 billion.

An E.P.A. spokeswoman, Anne Rowan, said that even after the company dredges the Kalamazoo, about 162,000 gallons of oil will remain. It cannot be recovered immediately without causing a significant adverse impact to the river, Ms. Rowan said.

Michigan’s Department of Environmental Quality, meanwhile, has undertaken a huge study to examine soil and sediment.

Since the spills, the pipeline industry has emphasized that oil lines remain safe and reliable, and that major spills are rare.

“Are we satisfied? No,” said Peter T. Lidiak, the American Petroleum Institute’s pipeline director. “We are trying to not have any releases and not have properties damaged and people impacted. Because that’s not the business we’re in.”

For Deb Miller, the spill will forever haunt Marshall.

“They can try and beautify along the river, but they can never give us back all of our neighbors who have moved out,” Ms. Miller said. “There are not enough zeros to pay us for what we’ve been through.”